

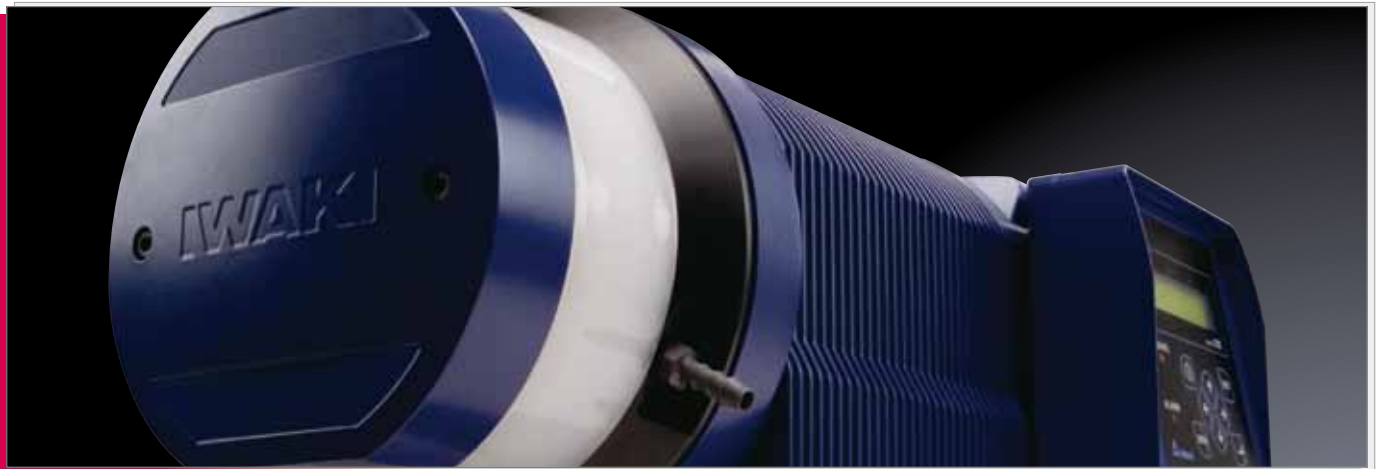
# IWAKI

NEW

IX  
series

## *Hi-Techno Pump*

A new generation of advanced  
metering pump technology!



Highly precise control offers a solution for every chemical dosing application.



# A new generation of advanced metering



# ... pump technology!

**750:1**

Turndown

**±1%**

High accuracy

**UP  
TO 70%**

Energy savings

**Highly precise control offers a solution for every chemical dosing application.**

Iwaki's IX Series are digitally controlled direct-drive diaphragm pumps. Years of experience in high-end motor technology result in extremely accurate and energy efficient metering pumps with high resolution.

The IX Series meet today's demand for automated chemical delivery in industries from water treatment to chemical process.



IX-C150TC



IX-C150S6



### A wide turndown ratio

A control motor adjusts the discharge and suction speeds to meet a wide turndown ratio of 750:1 from 200 mL/hr to 150 L/hr. (S6 type 150:1)

### Energy savings and Eco-friendly

With the use of helical gears and spring assistance, power consumption is reduced by 70% compared to the standard spring back design.

### Precise chemical dosing operation

The valve design maintains precise dosing at any flow rate whilst the motor regulates discharge and suction speeds to achieve high accuracy (+/-1%) all with a cost effective design from a mechanically driven diaphragm pump.

### Efficient pump head design is incorporated with high compression

Fast priming without air locks is achieved with a high compression ratio due to a fixed (maximum) stroke length.

#### Maximum suction lift: **2m**

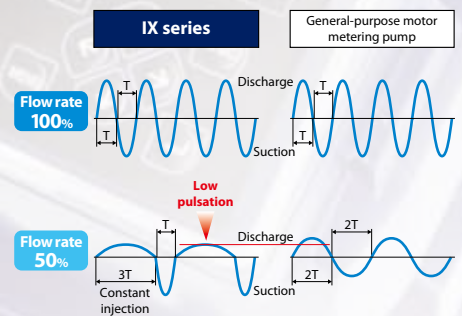
With an open discharge line and dry valve condition.

#### Maximum discharge pressure: **0.4MPa**

With a standard tubing layout.

### Constant injection with low impact

Flow control via discharge speed adjustment (with a fixed suction speed) assures constant injection at any flow rate. This system also reduces impact (inertia force) and load to the discharge line.



### Compliant to world standards

One of the IX features is multi-voltage operation (100-240VAC) compatible worldwide.

Compliant to UL, CE standards. Drive and control units are sealed separately to an IP65 enclosure.

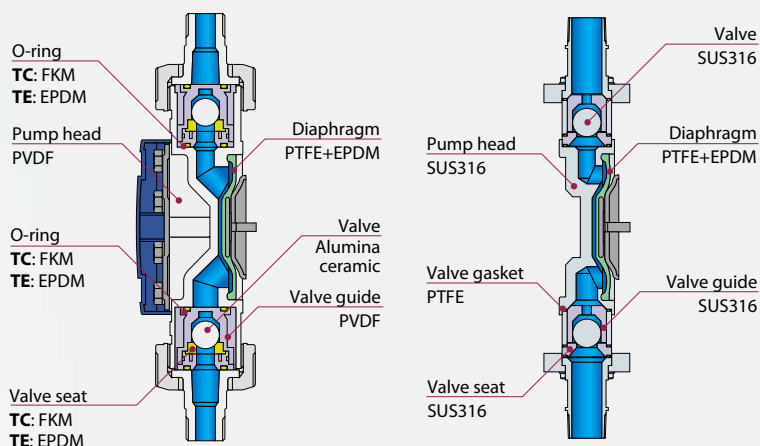
# Precise chemical dosing operation and energy savings Advanced mechanism assists eco-friendliness



## Construction and materials

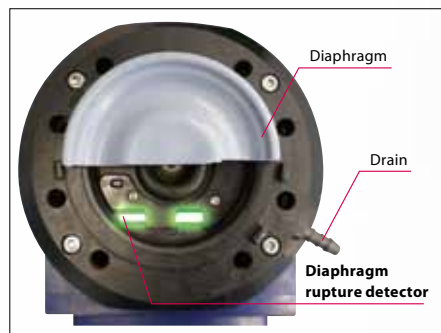
IX-C150TC, IX-C150TE

IX-C150S6

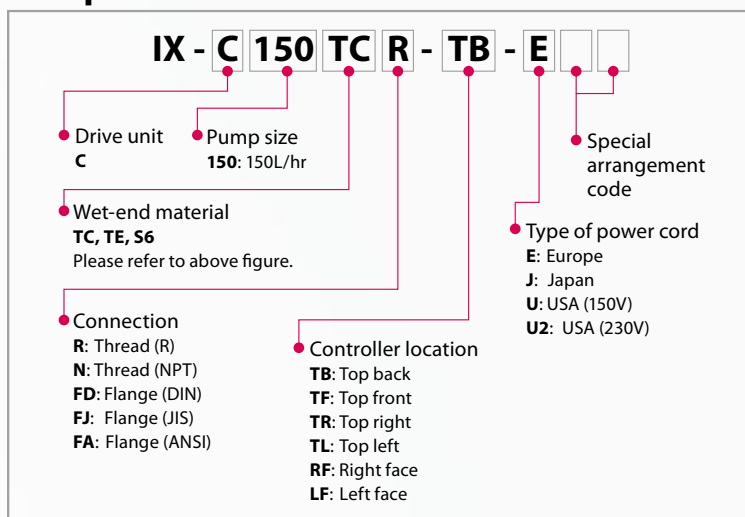


## Safety design

Standard to all models is a diaphragm rupture detector, protecting users and the environment. Also, a detector for abnormal operation protects the pipework in case of an accidental high discharge pressure caused by clogging or improper operation. A foolproof valve design only allows assembly in the correct orientation and a drain hole also ensures safe operation even when the diaphragm is damaged.



## Pump identification



## Specifications of pump

Model	Capacity (L/hr)	Max. pressure (MPa)	Connection	
			Thread	Flange
IX-C150	TC	0.4	R3/4 or 3/4NPT	JIS10K 20A or DIN PN16 DN20 or ANSI 150LB 3/4"
	TE			
	S6			

- The max. discharge capacity is obtained in operation with clean water at ambient temperature and the max. discharge pressure. It gets higher as the pressure gets lower.
  - Maximum viscosity: 1000 mPa-s
  - Liquid temperature range: 0-50°C (TC, TE type), 0-80°C (S6 type) No viscosity change, Non freezing, No slurry.
  - Operating temperature range: 0-50°C (Indoor use only)
  - Operating humidity range: 0-90%RH (Non condensing in the controller)
  - Contact us for other plumbing connections
- \* For the S6 type, a target flow rate may not be met when it is set to 1L/H or below.

# Easy operation on a Variety of applications

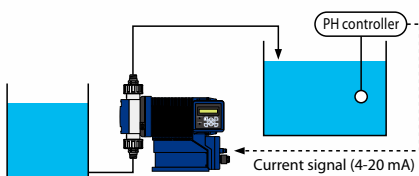


## Automatic control

The IX can run in analogue, pulse, batch or interval batch modes.

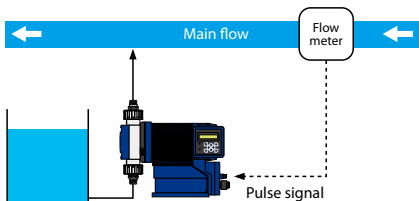
### Analogue operation

The pump operates in response to an input, (4-20mA) from a sensor.



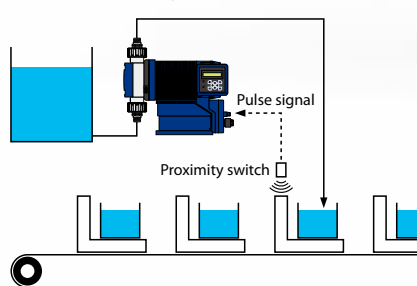
### Pulse operation

When combined with a flow meter or contact head water meter, the IX pump gives a paced dose rate in proportion to the main flow rate.



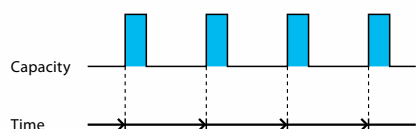
### Batch operation

Batch operation is possible with simple pump programming via the keypad and is initiated by a pulse signal.



### Interval batch operation

Timed operation is possible with simple pump programming via the keypad and is initiated with a pulse signal.



## Cavitation prevention

When pumping viscous liquids, suction stroke speed can be varied to avoid developing cavitation. (Programmable suction speed: 75%, 50% or 25% of the normal speed)

## Degassing

Keypad operation or the contact signal (AUX) runs the pump at maximum spm in any mode for degassing.

## Calibration

The pump is calibrated prior to shipment, however we recommend recalibration when installed in your system due to pipe layout and liquid properties.

## Operation history

Controller memory logs the total power connection time, operating time, number of strokes and number of power-up events.

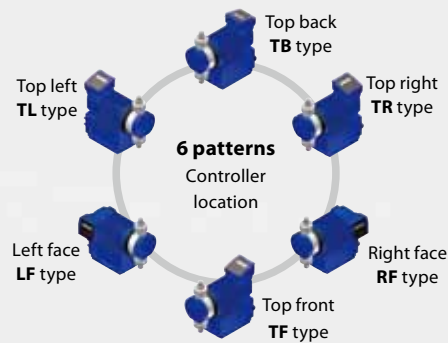
## Maintenance mode

This operation makes it possible to move the diaphragm forward with partial pump stroke operation facilitating diaphragm replacement.



### User friendly design

The controller position can be selected from 6 mounting positions for operator convenience. Also, a character LCD with LED backlight and optimized keypad positions assist easy operation.



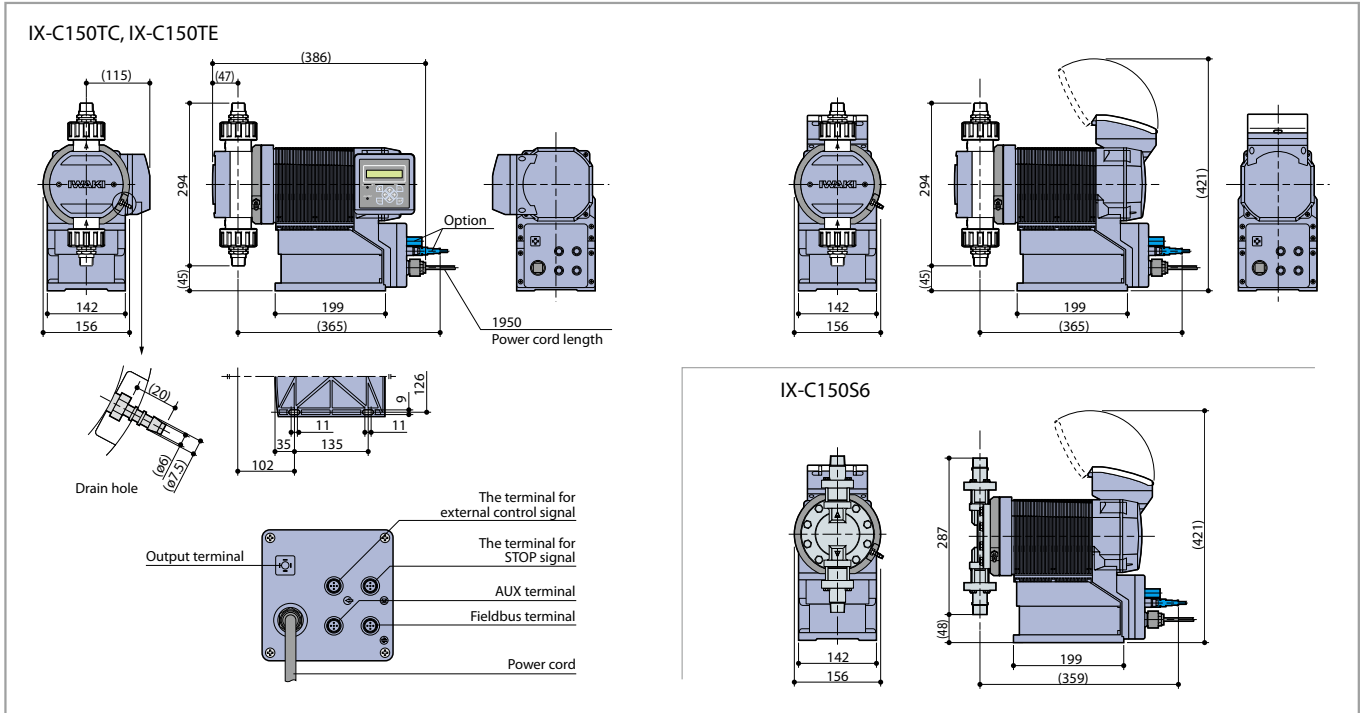
## Specification of controller

Monitors	LCD	16x2 backlight LCD	
	LED	Operation / Stop / Alarm	
Operation	Keypads	START / STOP               MENU               ESC               Enter Up               Down               Left               Light	
		MAN (Manual)	200 mL/hr - 150 L/hr
Operation mode	EXT	Analogue control	4 - 20, 0 - 20, 20 - 4, 20 - 0mA
		Pulse control	0.01560 mL/PLS - 300 mL/PLS
		Batch control	15.6 mL/PLS - 300 L/PLS
		Interval batch control	Time: 0-9day, 0-23Hr, 1-59min Capacity: 15.6 mL - 300 L
Control function	STOP	Operation stop at contact input	
	PRIME	MAX spm operation by pressing the Up and Down keys	
	Interlock	Operation stop at contact input	
	AUX	Operation with max. spm at contact input	
Input <sup>Note 1</sup>	STOP / Pre-STOP / AUX / Interlock	No-voltage contact or open collector	
	Analogue	0-20mADC (Internal resistance is 200 Ω .)	
	Pulse	No-voltage contact or open collector (MAX pulse frequency is 100Hz.)	
Output	Alarm 1 <sup>Note 2</sup>	No voltage cotact (Mechanical relay) 250VAC 3A (Resistive load) Selectable: STOP, Pre-stop, Interlock, Leak Detection and Motor Overload.	
	Alarm 2 <sup>Note 2</sup>	No voltage cotact (PhotoMOS relay) AC250V 3A (Registive load) Selectable: STOP, Pre-STOP, Interlock, Leak Detection and Motor Overload.	
	Power supply	12VDC 30mA or below	
Safety function	Diaphragm rupture detector	The pump will be stopped when the diaphragm is ruptured.	
	Over load detector	The pump will be stopped when the pump load has risen too high.	
Power voltage	100-240VAC 50/60Hz		

Note 1: Purchase an optional external control signal cable for analogue signal input, pulse signal input and an interlock signal input. Purchase an optional STOP signal cable for STOP signal input, PreSTOP input and AUX signal input.

Note 2: Purchase an optional output signal cable for signal output.

# Dimensions in mm



## Optional accessories

<p><b>DIN 5-pin connector cable</b> External control signal cable (5m) (external control signal input) Selection No. IX0018</p>	<p><b>DIN 4-pin connector cable</b> STOP signal and AUX signal cable (5m) (STOP signal input) Selection No. IX0019</p>	<p><b>DIN 4-pin connector cable</b> Output signal cable (5m) (Signal output) Selection No. IX0020</p>

[www.iwakipumps.jp](http://www.iwakipumps.jp)

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**!** Caution for safety use: Before use of pump, read instruction manual carefully to use the product correctly.  
Actual pumps may differ from the photos. Specifications and dimensions are subject to change without prior notice. For further details please contact us.

**!** Legal attention related to export.  
Our products and/or parts of products fall in the category of goods contained in control list of international regime for export control.